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DUPLICATE

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PROVISIONAL SPECIFICATION.

Improvements relating to the Manufacture of Bread.

CHRISTIAN GEORG JACOBSEN, formerly Secretary, at present, private man, 20 East India Dock Road, Limehouse London E. do hereby declare the nature of this invention to be as follows:—

- To produce bread there is as a rule used water or milk to knead the flour.
 5 The present invention is based upon to replace this by a fluid, which is more nourishing and at the same time much better will keep the bread in a new state, for at least 3 to 4 days.

This fluid is produced of (oaten) groats and or oatmeal boiled by steam.

- Bread made according to this method will be very delicious, also much easier
 10 digested than the usual bread, as well as it possesses a larger nutritive value, and will be absolutely cheap.

No chemicals whatever will be used in this bread, only the usual kinds of flour; but instead of water or milk to mix the flour in here will be used a fluid produced of (oaten) groats and or oatmeal, which are perfectly boiled by steam.

- 15 The baking will take place according to the best systems.

The boiling of the oaten, groats & or oatmeal can be done in different manners, however the usual way of doing it is to lead the steam down into the reservoirs fixed for the boiling.

- The boiling is continued until the oaten, groats & or oatmeal has got the sufficient
 20 liquid consistence, and can be used filtered or unfiltered for the purpose of kneading that for wheaten, brown or any kind of bread appointed flour.

The protection (Patent) is principally based upon, that the bread is made as follows. Instead of using water or milk to knead the flour in, here will be used a fluid & or a porridge which is extracted of oaten, groats & or oatmeal.

- 25 This 5th day of November 1894.

CHR. G. JACOBSEN.

COMPLETE SPECIFICATION.

Improvements relating to the Manufacture of Bread.

- I CHRISTIAN GEORG JACOBSEN of 20 East India Dock Road, London E.
 30 Gentleman, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- This invention has for its object an improved and hygienic process in, and relating to, the manufacture of any kind of bread by the employment in the
 35 preparation of the dough of a nutritious and milky fluid, extract or porridge obtained from oats, oaten groats and or oatmeal or from any mixture of cereals, beans or peas of which oats, oaten groats and or oatmeal is an ingredient, by boiling; the said fluid, extract or porridge being (filtered or unfiltered) for use by bakers, confectioners and others and being manufactured by them under license or

[Price 2d.]

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supplied to them ready for use or in a concentrated form (to which perfectly boiled water may be added) or as a sterilized fluid in hermetically closed drums or other vessels.

Hitherto by the ordinary method of preparing dough and other articles from meal or flour there has been as a rule used water ^{and}_{or} milk to knead the flour, and 5 by the present system of bread-making and in the manufacture of other analogous articles the following disadvantages exist :—

(1.) The possibility that the bread or bread-stuffs are dangerous to health by the using of unboiled water or milk to mix with the flour.

“The Medical Officer of Health to St. George's, Southwark F. J. Waldo, 10 M.A., M.D., and David Walsh M.B., C.M. Edinburgh have proved that germs of typhoid fever, cholera, &c., can be conveyed by water to bread and remain alive after baking.”—(*Lancet* Oct. 20th 1894.)

“And the same scientists state that thirteen different species of microbes were obtained, from the interior of newly baked London loaves, by them, in 15 a series of experiments to discover whether micro-organisms survived the ordeal of the baker's oven.”—(*The Sanitary Record*, July 5, 1895.)

(2.) The ordinary bread and analogous articles are sadly lacking of fat stuffs and therefore so difficult of digestion.

(3.) The ordinary bread keeps in a fresh state for a short time and easily breaks 20 into crumbs.

In carrying out my invention by which these objections are entirely obviated and superior bread or breadstuffs produced I first carefully obtain a fluid, extract or porridge from oats, oaten groats ^{and}_{or} oatmeal or from any mixture of cereals, beans or peas of which oats, oaten groats ^{and}_{or} oatmeal is an ingredient, by boiling, so as 25 to ensure the complete sterilisation or destroying of all living germs and micro-organisms present in the water or the oats, oaten groats ^{and}_{or} oatmeal or a mixture of cereals, beans or peas of which oats, oaten groats ^{and}_{or} oatmeal is an ingredient, used.

The details of the extraction of such fluid or porridge are as follows :—

I prefer (though this is not essential) that the oats, oaten groats ^{and}_{or} oatmeal or 30 the mixture of cereals, beans or peas, of which oats, oaten groats ^{and}_{or} oatmeal is an ingredient, are first digested with 5—10 to 15 times the weight of water for a time, such proportion of water being determined by whether the product required is to be of liquid consistence or in concentrated form. When the digestion is effected (or 35 if this is dispensed with as a commencement of the manufacture) I boil the oats, oaten groats ^{and}_{or} oatmeal or the mixture of cereals, beans or peas, of which oats, oaten groats ^{and}_{or} oatmeal is an ingredient, perfectly (for one to two hours or more as may be necessary for the different qualities of oats, oaten groats ^{and}_{or} oatmeal or mixture of cereals, beans or peas of which oats, oaten groats ^{and}_{or} oatmeal is an 40 ingredient used) either by steam or by any suitable method and apparatus, such boiling being continued until the product is reduced to a milky and fat fluid or porridge which I use filtered or unfiltered for kneading every kind of flour. The quantity of water used to one pound of oats, oaten groats ^{and}_{or} oatmeal or mixture of cereals, beans or peas, of which oats, oaten groats ^{and}_{or} oatmeal is an ingredient is 45 usually one gallon, this including that employed for the digestion of the oats oaten groats ^{and}_{or} oatmeal or mixture of cereals, beans or peas, of which oats, oaten groats ^{and}_{or} oatmeal is an ingredient, that used in the boiling and also that boiled water added if the extract is prepared in concentrated form. The quantity of water used to one pound of oats may however vary according as it is desired to 50 produce a very light sponge bread or a closer bread.

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The bread and breadstuffs made in this way can be baked after any system as fermented or unfermented bread or breadstuffs.

This fluid or porridge obtained from oats, oaten groats ^{and}/_{or} oatmeal or from a mixture of cereals, beans or peas, of which oats, oaten groats ^{and}/_{or} oatmeal is an ingredient essentially consists of the most digestible and nutritive matter and such fluid or porridge may for brevity be collectively distinguished as "oat extract."

There can be used as much as 30 gallons of oat extract in the kneading of a sack of ordinary white flour of 280 lbs. and after the baking the bread obtained would be about 525 to 550 lb.

By my invention not only are superior and more palatable bread and breadstuffs produced, but also the great objections to bread as at present made are obviated.

The essential advantages of the invention are:—

(1.) The exclusion of unboiled water or milk for kneading purposes and instead thereof the use of oat extract which has been perfectly boiled and the living germs or micro-organisms therein destroyed.

(2.) A large percentage of fat will be introduced into the bread or breadstuffs which will make the bread or breadstuffs much easier of digestion.

The following table shews the great difference regarding fat in cereals.

COMPARATIVE ANALYSIS OF FOODS.

	Nitrog. (Flesh Forming).	Mineral (Phos- phates).	Fat.	Starch.	Water.
Oatmeal	16.0	2.1	10.1	63.0	5.0
Wheat	11.0	1.7	1.2	69.0	14.5
White Flour	10.5	0.7	0.8	74.3	13.0
Rye	10.5	1.6	1.6	71.0	13.0
Maize	9.0	2.0	5.0	64.5	14.5
Rice	7.5	0.5	0.5	76.0	14.6
Potato	2.3	1.1	0.0	18.7	75.0

We see here that oatmeal is by far the richest in the elements that go to make a digestible food as it contains the greatest percentage of fat.

(3.) Bread made with oat extract keeps fresh for a longer time than the ordinary article and does not break into crumbs.

(4.) The oat extract makes the bread or breadstuffs very nourishing as the albuminoids in 100 parts of different cereals is as follows:—

Oats	-	-	-	-	-	16.1
Wheat	-	-	-	-	-	10.5
Rye	-	-	-	-	-	10.5
Maize	-	-	-	-	-	9.0
Rice	-	-	-	-	-	7.5
Barley	-	-	-	-	-	6.4

(After "Health News" Vol. 1. No. 5, 1895.)

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(5.) There will be a saving in the cost of production as the extra weight of bread produced by given quantities of flour will be worth more than the cost of the oat extract employed.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

Firstly. The process of manufacturing by boiling a milky or concentrated fluid, extract or porridge of oats, oaten groats ^{and}/_{or} oatmeal or from any mixture of cereals, beans or peas of which oats, oaten groats ^{and}/_{or} oatmeal is an ingredient for use in bakers and confectioners articles. 10

Secondly. In the preparation of dough in the manufacture of any kind of bread or breadstuffs or other articles made from meal or flour the employment of a filtered or unfiltered fluid, extract or porridge obtained from oats, oaten groats ^{and}/_{or} oatmeal or from any mixture of cereals, beans or peas, of which oats, oaten groats ^{and}/_{or} oatmeal is an ingredient, as hereinbefore described. 15

Dated this 3rd day of August 1895.

CHR. G. JACOBSEN.

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